

R E M A R K S

At the outset, Applicants submit herewith a Supplemental Information Disclosure Statement making of record U.S. Patent No. 6,040,967 to Disalvo, a new Power of Attorney (including a request to change the correspondence address for this application to the undersigned attorney), and a Request for Change in the Order of the Names of the Inventors.

Claims 1-16 are pending in this application. Dependent claims 2, 4, 5, 12 13 and 16 were found to be allowable. Claims 1, 3, 6-11 and 14-15 stand rejected under 35 U.S.C. §102 as being anticipated by U.S. Patent No. 4,002,951 to Halbeck. Applicants respectfully request reconsideration and withdrawal of the rejection in view of the following remarks.

Applicants have amended independent claim 1 to incorporate the features of allowable claim 4 and to remove unnecessary limitations. Independent claim 8 has been amended to improve form and to incorporate the features of allowable claims 12 and 13. Claims 9, 15 and 16 were amended to more precisely define features of the invention. New independent claims 21 and 36 combine the features of original claim 1 and allowable claim 2. New independent claim 29 combines the features of original claim 8 and allowable claim 16. New dependent claims 17-20, 22-28, 30-35 and 37-40 have been added to more particularly define features of the invention. Support for all of the claim amendments may be found in the published specification (Publication No. US 2002/0180451 A1, at paragraphs [0007] and [0093] – [0095]). No new matter has been added by any of these amendments. In view of the foregoing amendments, the rejection under 35 U.S.C. §102(b) is moot.

The Examiner also objected to the drawings under 37 CFR 1.83(a), requiring that a reset mechanism wherein a test signal applied to the detection mechanism will cause the relay to close the first circuit must be shown in the drawings. Applicants submit herewith revised and more detailed Figures 21A and 21B, including two examples of electric circuit components and connections that perform the reset function of the invention as it is described in the specification at paragraphs [0007], [0050], [0055] and [0093]-[0095]. More particularly, Figures 21A and 21B show a detection mechanism 881 or current sensing device that includes a commonly configured transformer coil capable of determining whether the outflow of current is different from inflow. Such sensing devices are commonly available, thus details concerning the circuitry of the detection mechanism 881 are not included in the drawings. Upon sensing a difference (i.e., a possible ground fault), the detection mechanism 881 outputs an electrical signal to a common bistable latching relay trip mechanism 883, which then opens the main switch and prevents current from flowing through the electric circuit interrupter. See paragraphs [0007] and [0093]. An example of the structure of a bistable latching relay is shown in revised Figures 21A and 21B. However, it should be understood that other types of bistable latching relays that achieve the stated function would be acceptable for use in this invention. A reset switch 882 is provided in series with a test resistor and connected between the hot output terminal and the neutral input terminal of the detection mechanism 881. When the reset switch 882 is closed, current is diverted from the hot output terminal through the resistor, simulating a ground fault, which can then be detected if the detection mechanism 881 is working properly. See paragraph [0055]. If so, the relay is caused to change states if the relay is working properly. If the reset switch is activated, but either the detection mechanism 881 or the relay 883 is not working

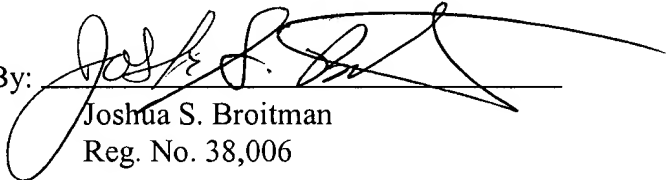
properly, the electric circuit interrupter cannot be reset. No new matter has been added.

In view of the foregoing, Applicants believe that all claims pending in this application are allowable and request that this case be passed to issue. However, if any issue remains to be resolved, Applicants request that the Examiner telephone the undersigned.

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Respectfully submitted,

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**LISTING OF CLAIMS AS OF OCTOBER 30, 2003**

1. (Currently Amended) An electric circuit interrupter, comprising:
  - a housing;
  - a detection mechanism located adjacent within the housing and configured to determine when a ground fault in a first circuit exists; and
  - an interrupter device located adjacent within the housing and configured to open the first circuit when a ground fault is detected by the detection mechanism, wherein the interrupter device includes a bistable latching relay configured such that a state of the relay can be changed when the electric circuit interrupter is operational and the state of the relay cannot be changed when the electric circuit interrupter is not operational.
2. (Original) The electric circuit interrupter of claim 1, further comprising: a reset mechanism wherein when the electric circuit interrupter is operational, has been tripped and the reset mechanism is activated, a test signal is applied to the detection mechanism and the relay is caused to change states to close the first circuit.
3. (Original) The electric circuit interrupter of claim 1, wherein when the detection mechanism determines that a ground fault exists, the relay is caused to change states to open the first circuit.
4. (Canceled)
5. (Original) The electric circuit interrupter of claim 2, wherein the reset mechanism includes means for simulating a ground fault, and the detection mechanism provides a signal to the relay when a simulated ground fault is detected by the detection mechanism, and the relay is caused to change state upon receipt of the signal.
6. (Original) The electric circuit interrupter of claim 1, wherein the detection mechanism provides a fault signal to the relay when a ground fault is detected, and the relay is caused to change state upon receipt of the fault signal.

7. (Original) The electric circuit interrupter of claim 1, wherein the detection mechanism includes a detection circuit.

8. (Currently Amended) A method for using an electric circuit interrupter ~~comprising circuitry that includes a relay and a means for detecting when a ground fault exists in a first circuit, the method comprising the steps of:~~

~~providing an electric circuit interrupter that includes circuitry and is connected connecting the electric circuit interrupter to the first circuit, wherein the circuitry includes a relay;~~

~~activating a reset switch on the electrical circuit interrupter to cause a simulated ground fault to occur; and~~

~~causing the relay to change states in response to detection of the simulated ground fault~~ when the circuitry of the electric circuit interrupter is operational, such that the first circuit changes between an opened state and a closed state.

9. (Currently Amended) The method for using an electric circuit interrupter of claim 8, ~~further comprising: not permitting wherein the electric circuit interrupter inherently prevents the relay to change from changing states~~ when the circuitry of the electric circuit interrupter is not operational.

10. (Original) The method for using an electric circuit interrupter of claim 8, wherein the relay includes a relay coil, and the step of causing the relay to change states can occur only when the relay coil is operational.

11. (Original) The method for using an electric circuit interrupter of claim 8, wherein the step of causing the relay to change states includes detecting a ground fault in the first circuit.

12. (Canceled)

13. (Canceled)

14. (Original) The method for using an electric circuit interrupter of claim 8, wherein the step of causing the relay to change states inherently determines whether the electric circuit interrupter is operational.

15. (Currently Amended) The method for using an electric circuit interrupter of claim 8, wherein the step of causing a relay to change states opens the first circuit when the first circuit is closed.

16. (Currently Amended) The method for using an electric circuit interrupter of claim 8, wherein the step of causing a relay to change states closes the first circuit when the first circuit is open.

17. (New) The electric circuit interrupter of claim 1, wherein the interrupter device is configured to close the first circuit when a simulated ground fault is detected by the detection mechanism.

18. (New) The electric circuit interrupter of claim 1, further comprising a reset mechanism including means for simulating a ground fault, wherein when the reset mechanism is activated, a simulated ground fault is introduced into the electric circuit interrupter and if the electric circuit interrupter is operational, the simulated ground fault is detected by the detection mechanism and in response to such detection, the detection mechanism provides a signal to the relay causing the relay to change states.

19. (New) The electric circuit interrupter of claim 18, wherein when the electric circuit interrupter is operational, has been tripped and the reset mechanism is activated, the relay is caused to change states to close the first circuit.

20. (New) The electric circuit interrupter of claim 1, further comprising a reset mechanism including means for simulating a ground fault, wherein when the reset mechanism is activated, a simulated ground fault is introduced into the electric circuit interrupter and if the detection mechanism is not operational, the simulated ground fault is not detected, no signal is

provided to the relay, and the relay does not change states to close the first circuit.

21. (New) An electric circuit interrupter, comprising:

a housing;

a detection mechanism located within the housing and configured to determine when a ground fault in a first circuit exists;

an interrupter device located within the housing and configured to open the first circuit when a ground fault is detected by the detection mechanism, wherein the interrupter device includes a relay configured such that a state of the relay can be changed when the electric circuit interrupter is operational and the state of the relay cannot be changed when the electric circuit interrupter is not operational; and

a reset mechanism wherein when the electric circuit interrupter is operational, has been tripped and the reset mechanism is activated, a test signal is applied to the detection mechanism and the relay is caused to change states to close the first circuit.

22. (New) An electric circuit interrupter of claim 21, wherein the reset mechanism includes means for simulating a ground fault, such that when the reset mechanism is activated, a simulated ground fault is introduced into the electric circuit interrupter and if the electric circuit interrupter is operational, the simulated ground fault is detected by the detection mechanism and in response to such detection, the detection mechanism provides a signal to the relay causing the relay to change states.

23. (New) The electric circuit interrupter of claim 21, wherein the reset mechanism includes means for simulating a ground fault, such that when the reset mechanism is activated, a simulated ground fault is introduced into the electric circuit interrupter and if the detection mechanism is not operational, the simulated ground fault is not detected, no signal is provided to the relay, and the relay does not change states to close the first circuit.

24. (New) The electric circuit interrupter of claim 21, wherein the relay is a bistable latching relay.

25. (New) The electric circuit interrupter of claim 21, wherein when the detection mechanism determines that a ground fault or a simulated ground fault exists, the relay is caused to change states to open the first circuit when the first circuit is closed, and to close the first circuit when the first circuit is open.

26. (New) The electric circuit interrupter of claim 25, wherein the detection mechanism provides a fault signal to the relay when a ground fault is detected, and the relay is caused to change state upon receipt of the fault signal.

27. (New) The method for using an electric circuit interrupter of claim 10, wherein the relay changes states upon momentary energization of the relay coil.

28. (New) The method for using an electric circuit interrupter of claim 10, wherein the step of causing the relay to change states can occur only when the means for detecting whether a ground fault exists is operational.

29. (New) A method for using an electric circuit interrupter comprising circuitry that includes a relay, the method comprising the steps of:

connecting the electric circuit interrupter to a first circuit;

detecting whether a ground fault exists in the first circuit; and

causing the relay to change states in response to detection of a simulated ground fault when the circuitry of the electric circuit interrupter is operational, such that the first circuit changes from an opened state to a closed state.

30. (New) The method for using an electric circuit interrupter of claim 29, wherein the electric circuit interrupter inherently prevents the relay from changing states when the circuitry of the electric circuit interrupter is not operational.

31. (New) The method for using an electric circuit interrupter of claim 29, wherein the relay includes a relay coil, and the step of causing the relay to change states can occur only when the relay coil is operational.



32. (New) The method for using an electric circuit interrupter of claim 29, wherein the step of causing a relay to change states includes activating a reset switch on the electrical circuit interrupter.

33. (New) The method for using an electric circuit interrupter of claim 32, wherein the step of activating a reset switch causes a simulated ground fault to occur.

34. (New) The method for using an electric circuit interrupter of claim 33, wherein when the electric circuit interrupter is operational, detection of the simulated ground fault causes the relay to change states.

35. (New) The method for using an electric circuit interrupter of claim 32, wherein the step of activating the reset switch inherently determines whether the electric circuit interrupter is operational.

36. (New) An electric circuit interrupter, comprising:

a housing;

a detection mechanism located within the housing and configured to sense when a ground fault in a first circuit exists and to output an electrical signal upon sensing the ground fault;

a bistable latching relay located within the housing and configured to have a closed state wherein the first circuit is closed and an open state wherein the first circuit is opened, the bistable latching relay further configured to change from the closed state to the open state and the open state to the closed state when the electric circuit interrupter is operational and the electrical signal is received from the detection mechanism.

37. (New) The electric circuit interrupter of claim 36, wherein the ground fault is selected from the group consisting of: an actual ground fault in the first circuit and a simulated ground fault created by the electric circuit interrupter.

38. (New) The electric circuit interrupter of claim 36, wherein the ground fault is an actual ground fault in the first circuit, and when the detection mechanism senses the actual ground fault, the relay is caused to change to the open state upon receipt of the electrical signal.

39. (New) The electric circuit interrupter of claim 36, further comprising a reset mechanism including means for simulating a ground fault, wherein when the reset mechanism is activated, a simulated ground fault is introduced into the electric circuit interrupter and if the electric circuit interrupter is operational, the simulated ground fault is detected by the detection mechanism and in response to such detection, the detection mechanism provides the electrical signal to the relay to cause the relay to change to the closed state.

40. (New) The electric circuit interrupter of claim 39, wherein if the detection mechanism or the bistable latching relay are not operational, activation of the reset mechanism does not cause the relay to change to the closed state.